

**REMARKS/ARGUMENTS**

Claims 14-33 are pending.

**Specification Amendments**

Applicants are providing several corrective amendments to the specification. At page 11, Applicants are replacing the term "thiophene" with --thiophane--. Compare with the reaction scheme at the top of page 11. Consequently, Applicants respectfully submit that they are merely correcting an obvious error with an obvious correction, and as such, this correction does not introduce new matter. *See in re Oda*, 170 U.S.P.Q. 268, 272 (CCPA 1971).

Similarly at the last line of page 30, Applicants are replacing " second reactor" with --second catalytic zone--. Applicants respectfully submit that they are merely clarifying the language. Particularly, example 3 discloses placing catalyst A and catalyst C in the same hydrodesulfurization reactor (see page 29, lines 8-12). There is no second reactor in example 3. In contrast, the specification discloses that such an arrangement provides two catalytic zones. See page 24, lines 24-27.

Finally, Applicants have amended the text at page 32, line 4 to recite example --4-- rather than "2". This terminology is part of a sentence that states:

The liquid thus obtained is then reheated to the temperature of the second reactor and then reinjected in the pressure of hydrogen introduced with a flow rate and under a pressure corresponding to that of the second reactor of example 2.

Example 2 fails to disclose a second reactor. Rather, example 2 pertains to a comparison hydrodesulfurization according to stage A. Examples 1 and 3 only disclose single reactors. The only example having two reactors besides example 5 is example 4. Consequently, Applicants respectfully submit that this change is merely correcting an obvious error with an obvious correction.

As an aside, although Example 5 states that 25 ml of catalyst A is placed in a tubular reactor, it is silent with respect to the operating conditions of that reactor. Applicants note that the amount of catalyst A is the same amount as in Example 3. Correspondingly, the operating conditions of the tubular reactor in Example 5 are the same as Example 3 too. This missing information, if desired, can be confirmed with a declaration under 37 C.F.R. §1.132.

In view of the above, Applicants respectfully submit that no new matter is being entered into the application.

Declaration Submission

Attached hereto is a declaration providing significant and unexpected advantages of the present invention. Please note that the serial number depicted on the declaration, namely 09/897,157 is incorrect. It should be that of the present application, namely 09/897,757.

The declaration compares a process using two tubular reactors with one filed with catalyst A and the second reactor filled with catalyst A and catalyst C. This comparative example has an H<sub>2</sub>-HC ratio at the inlet of the second reactor of 100 liters per liter of feedstock. An example according to the present invention (example 7) is operated with the same conditions as example 6 except that the H<sub>2</sub>-HC ratio at the reactor 2 inlet is 220 liters per liter of feedstock. It can be seen that the higher H<sub>2</sub>-HC ratio in example 7 leads to higher olefins content and higher average octane numbers than those of comparison example 6. Consequently, this evidence further demonstrates the significant and unexpected advantages of the present invention.

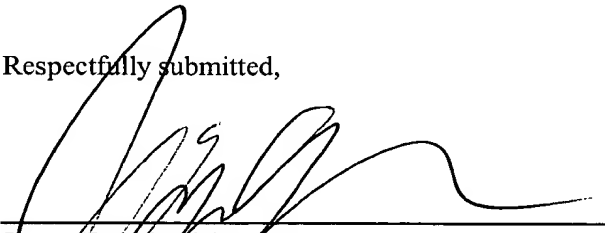
It is Applicant's understanding that a fee is not required for an extension of time for this Supplemental Amendment. If the Examiner believes that a fee is required, please charge Deposit Account Number 13-3402.

Appl. No.: 09/897,757

Supplemental Amendment dated June 5, 2003

In view of the above remarks, favorable reconsideration is courteously requested. If there are any remaining issues which can be expedited by a teleconference, the Examiner is courteously invited to telephone counsel at the number indicated below.

Respectfully submitted,



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Filed: June 5, 2003

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re application of : Blaise DIDILLON et al..

Serial No. 09/897,157 : Group Art Unit: 1764  
Filed: 07/03/2001 : Examiner: James ARNOLD Jr.

For : Serial No. Should Be:  
09/897,757

**DECLARATION UNDER 37 C.F.R. § 1.132**

Honorable Commissioner  
of Patent and Trademarks  
Washington, D.C. 20231

**RECEIVED**  
**JUN 09 2003**  
**TC 1700**

Sir :

I, Germain Martino, duly warned, declare and say as follows:

THAT, I am a French citizen; that I graduated from "Faculté des Sciences de l'Université de Strasbourg" (France) in 1961; that I obtained an Engineer Diploma from "Ecole Nationale Supérieure de Pétrole et des Moteurs" Rueil-Malmaison (France) in 1963; that I was received as a Doctor by "Université de Louvain" (Belgium) in 1965; and that I now reside in 78300 Poissy (France), 80 avenue Fernand-Lefebvre;

THAT, I was hired by "Institut Français du Pétrole" Rueil-Malmaison (France) in their Research Department to research on catalytic agents and catalytic reactions in May 1967; that, from January 1985 to September 1989, I was Manager of the Kinetics and Catalysis Research Division; that, from September 1989 to December 1997, I was Assistant Manager of the whole Refining and Petrochemical Technology Business Unit; and that since then I have been Manager of said Refining and Petrochemical Technology Business Unit.

I declare further:

THAT, I have supervised the examples set forth in the specification of the application SN 09/058,040 and that these examples are correct,

THAT, I have supervised the following experiments :

Example 6 : (comparative)

Two tubular reactors are filled with catalyst A for the first one (reactor 1) and catalyst A+C for the second one (reactor 2). The test procedure is equivalent to that of example 5 except for some operating conditions which have been changed. Pressure and flowrates of hydrocarbon feed and H<sub>2</sub> are the same as in example 5 but the H<sub>2</sub>/HC ratio at the inlet of the reactor containing catalysts A+C is decreased to 100 liters per liter of feedstock. Operating temperature for catalyst A in both reactors are adjusted to reach around 50 ppm and 10 ppm of sulfur in the product. Temperature of catalyst C of reactor 2 bed is maintained at 330°C.

The results obtained are summarised in the following table :

Temp cat A reactor 1, °C	Temp cat A reactor 2, °C	Sulfur, ppm	Olefins, wt %	(RON+MON)/ 2
260	305	48	21.6	82.3
280	310	11	18.8	80.9

Example 7 : (according to the invention)

Operating conditions are the same as in example 6 except for the H<sub>2</sub>/HC ratio at reactor 2 inlet which has been increased to reach 220 liters per liter of feedstock. Operating temperature for catalyst A in both reactors are adjusted to reach around 50 ppm and 10 ppm of sulfur in the product. Temperature of catalyst C bed is maintained at 330°C.

The results obtained are summarised in the following table :

Temp cat A reactor 1, °C	Temp cat A reactor 2, °C	Sulfur, ppm	Olefins, wt %	(RON+MON)/ 2
260	282	47	22.9	83.2
280	290	11	19.9	81.9

It can be seen that operating conditions of example 7 (higher H<sub>2</sub>/HC) lead to higher contents of olefins and higher average octane numbers than those of example 6.

The undersigned declares further that all statements are made herein of his own knowledge are true and that all statements made on information and belief are believed to be true ; and further that these statements are made with the knowledge that willful false statements and the like so made were punishable by fine or imprisonment, or both under Section 1001 Title 18 of United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Rueil, May 3, 2003

  
Germain MARTINO